REMARKS

Claims 1-21 remain in the application. Claims 1 – 21 have been rejected. Claims 1-2, 4, 8-11, 13, 15, and 19-21 have been amended. Support for the claim amendments can be found in Applicant's disclosure at paragraphs 24, 27, and 28. Claims 3, 6, 14, and 17 have been cancelled. Applicant respectfully requests reconsideration of the pending claims.

CLAIM REJECTIONS UNDER 35 USC §102

The Office Action has rejected claims 1, 3, 5, 6, 8, 9, 12, 14, 19, and 21 under 35 USC 102(e) as being anticipated by Lindblad et al., US Patent Number 7,171,404. Applicant respectfully disagrees.

Claim 1, as amended, is not taught by Lindblad because Lindblad does not teach or suggest processing an XPath query in a streaming manner. Lindblad cannot possibly perform streaming XPath processing because Lindblad needs to be able to traverse the tree more than once and this is not possible while streaming. In fact, the Office Action at the bottom of page 4 admits, in referring to Lindblad, that "he does not explicitly state that the document is stored in memory or that the document is streaming."

Further, Lindblad's step queries actually teach away from the claimed element of "processing the at least a portion of the XML document in a streaming manner and using the modified search criteria in a *single* depth-first traversal of the at least a portion of the XML document." Lindblad does not restrict his tree traversal to a single depth-first traversal.

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Lindblad organizes his tree into subtrees and first runs a query to zero in on a desired subtree, then Lindblad traverses that subtree, returns to root and then traverses another subtree in order to locate the query item. See Figures 7 and 8 of Lindblad.

Claims 3 and 14 have been cancelled, thus mooting their rejection.

Claim 5 is not anticipated by Lindblad because Lindblad does not teach the claimed element of converting backward constraints into forward constraints. Lindblad's indexing method does not convert backward constraints into forward constraints in order to effect a streaming processing for XPath expressions containing backward axes. Instead, Lindblad's method for handling backward axes [See Lindblad, paragraphs 175-178] is to "generate the ancestor path going back two steps, and check, if grandparent(c)=A, parent(c)=B. If not, discard c, and loop around to process the next node. If yes, then test the entire XPath expression ... by evaluating the predicate expressions from left-most (highest) to rightmost (lowest step), as specified in the XPath standard." Clearly, Lindblad is resorting to a method known in the art; Lindblad is not converting backward constraints into forward constraints. Instead, Lindblad is following a backward constraint, *backward* ("going back two steps").

On pages 6 and 7 of the Office Action the Examiner states that "however forward and backward search imply 'streaming manner', in other words data/query can be processed as the data/query is transferred." Applicant disagrees with the Examiner's interpretation of "streaming" in this context. In Applicant's disclosure at paragraph [0001] Applicant incorporates by reference U.S. Patent application Serial No. 10/264,076 entitled "A METHOD FOR STREAMING XPATH PROCESSING WITH FORWARD AND BACKWARD AXES." Now

an issued patent (No. 7,171,407), it contains this definition of "Streaming Processing of XML:"

"Streaming XPath processing refers to evaluating an XPath expression while "streaming" over an XML document." This definition of streaming is not equivalent to "forward and backward search." Applicant submits that the Office Action should use the definition as referenced in Applicant's disclosure.

Claims 12 and 16, as counterparts to claim 5, are not anticipated by Lindblad for the reasons as discussed above.

Claims 6 and 17 have been cancelled, thus mooting their rejection.

Claims 8-10 are not anticipated by Lindblad by virtue of their dependence on claim 1. Claims 19 and 20 are not anticipated by Lindblad by virtue of their dependence on claim 11, a counterpart to claim 1.

CLAIM REJECTIONS UNDER 35 USC §103

The Office Action rejected claims 2, 4, 13 and 15 under 35 USC 103(a) as being unpatentable over Lindblad in view of Raboczi et al. (US Publication 2003/0074352).

The Office Action states that although Lindblad does not teach working with a "streaming" document, Raboczi teaches a database where the user can access a "streaming" document. Applicant respectfully disagrees. Raboczi teaches a database query system that receives a query and splits it into subqueries and provides a subquery to each of a plurality of database servers in accordance with the query; however, Raboczi's system does not deal with streaming data at all. A streaming document is an electronic document that can be viewed in

real-time without first downloading (or buffering) the entire file. An example of a streaming

document is the stock market ticker tape. Raboczi does not teach or suggest such a document.

Raboczi's splitting of the query into sub-queries and storing those sub-queries is a form of

buffering.

Therefore, the rejections to claims 2, 4, 13, and 15 should be withdrawn.

The Office Action has rejected claims 7 and 18 under 35 USC 103(a) as being

unpatentable over Lindblad et al. in view of Trappen et al. (US Publication 2005/0138064). The

Office Action states that Lindblad does not teach using a modified directed acyclic graph

comprising a node "CTXT" which only matches the context node, but that Trappen teaches the

use of a DAG for a query search. Trappen deals with primarily SQL database queries and

employs a DAG structure. However; this is not the same as using the modified DAG structure as

in the instant application. In the instant application, an X-DAG is used. An X-DAG is a graph

representation of an internal data structure created from an XPath expression. It represents the

XPath expression and all of its constraints. The use of the X-DAG in the instant application is

used to represent the data structure in such a way that backward constraints are represented as

forward constraints. This is a far cry from Trappen's conventional use of the DAG to represent
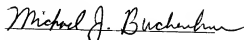
only forward constraints.

Trappen does not teach using an X-DAG comprising a specific context node. In

the instant case the showing for the motivation is not clear or specific and therefore the rejection

is improper because of an improper use of hindsight.

For the foregoing reasons, Applicant respectfully requests allowance of the pending

claims.

Respectfully submitted,

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